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ABSTRACT

The process, findings, and utility of an institutionwide budget unit analysis conducted at a community college during the 1979-80 year are described. Financial projections were developed by applying a modified version of the Information Exchange Procedures Model, and evaluation data were derived from the system developed to meet the requirements of the 1976 Vocational Education Act. A composite rating was created for each program and service offered by the college. The resulting report was used by college decision makers in preparing the reduced budget. Use of the information by college administrators and the relationship between the budget analysis and the proposed reduced budget are discussed. The college needed to cut more than 35 percent from the proposed 1980-81 budget due to declining enrollment, local budget levy defeats, and inflation. (Author/SW)

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BUDGET UNIT ANALYSIS IN AN ERA OF RETRENCHMENT: The Interface between Financial Planning and Program Evaluation

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This paper was presented at the Twentieth Annual Forum of the Association for Institutional Research held at the Peachtree Plaza Hotel in Atlanta, Georgia, April 27 - May 1, 1980. This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of Forum papers.

Mary Corcoran
University of Minnesota
(Editor, AIR Forum Publications)

The process, findings, and utility of an institutionwide budget unit analysis conducted at a community college during the 1979-80 year are described. The study was initiated because of the need to cut more than 35% from the proposed 1980-81 budget due to declining enrollment, local budget levy defeats, and inflation. Financial projections were developed by applying a modified version of the Information Exchange Procedures Model. Evaluation data were derived from the system developed to meet the requirements of the 1976 Vocational Education Act. From assembled information, a composite rating was created for each program and service offered by the college. The resulting report was then used by college decision makers in preparing the reduced budget. How the information was used by college administrators and the relationship between the budget analysis and the proposed reduced budget are also discussed.

This paper describes the process, findings, and utility of an institution-wide budget unit analysis project at a medium size, comprehensive community college. This paper is further focused on the role of an institutional research office within the broader topic of program evaluation as well as the more specific topic of budget analysis.

This community college district has the mission "to offer quality learning opportunities and other services designed to meet the present and changing educational needs of the communities it serves within the human and physical resources available to it." The community college has developed from a 1966 start into an institution able to provide many valuable services derived from a strong sense of its mission. However, problems have arisen during the last four years that may be indicative of similar problems which other institutions may be confronting in the 1980s.

An Era Of Retrenchment

Three aspects of the problem to be confronted are (1) less enrollment, (2) less revenue, and (3) higher expenditures. We examine the specifics of this particular institution and find the summarized results displayed in Figure I. This analysis demonstrates a significant drop in enrollment, especially in terms of FTE (Full-Time-Equivalents). As with many colleges and universities, this college is experiencing an increasing annual unduplicated headcount alongside a declinging FTE enrollment. What makes this critical from a budget

Figure 1

factor		1975		1980	
		6,500	F T E	5,700	F T E
1	DECLINING ANNUAL F T E ENROLLMENT	21,000	Unduplicated Headcount	22,000	Unduplicated Headcount
2	LESS REVENUE HISTORY OF LOCAL BUDGET ELECTIONS	9 for 9 from	1966 to 1975	3 for 13 from	1975 to 1980
3	HIGHER EXPENDITURES INFLATION SALARY INCREASES	$$$$$$		$$$$$$	

EQUALS AN ERA OF RETRENCHMENT

Factors Leading To Retrenchment

perspective is that state reimbursement revenue is based on FTE enrollment. Another factor impacting on revenue is the "tax payers revolt", since approximately 30% of the college's revenue is derived from local property taxes. The taxpayers revolt is demonstrated by the institution's tremendous vote of confidence (9 for 9 in local budget elections) during the period from 1966 to 1975. Then, the institution's batting average on budget elections slipped from super stardom (1000 batting average) to minor league survival fighting (231 batting average) during the last four years. Add to this the third factor; higher expenditures necessary to provide the same level of service because of significant items like inflation and rising personnel costs.

What do we label this change in institutional environment? It is now commonly referred to as "an era of retrenchment". The challenge is to respond to this environment in a mission-consistent fashion. Our response was to identify the supplemental role that institutional research can play in positively confronting the identified problems.

It is now October 1979. The specific budget analysis problem we are confronting is to aid in the development of a well-thought-out $10 million budget for 1980-81 when a $15 million budget represents the absolute minimum required to maintain an already trimmed level of services (during the previous two years, over 100 FTE staff positions were dropped from the budget and approximately 20% of the college's course sections were cut due to district taxpayer's non-support of requested budget levies). With the possible and even likely cut of over $5 million from the proposed 1980-81 budget, it becomes an absolute necessity to drop existing programs and to lay off full-time instr-

uctors and other staff in a manner consistent with collective bargaining contracts (Dougherty, Lanfitt and Volkwein, 1979).[1] Thus, the decisions on program burials and staff reductions must be made before the start of spring term 1980; and the district's board of education, which will have to approve the decisions, must be fully informed.

Conceptual Framework For Budget Analysis Information Development

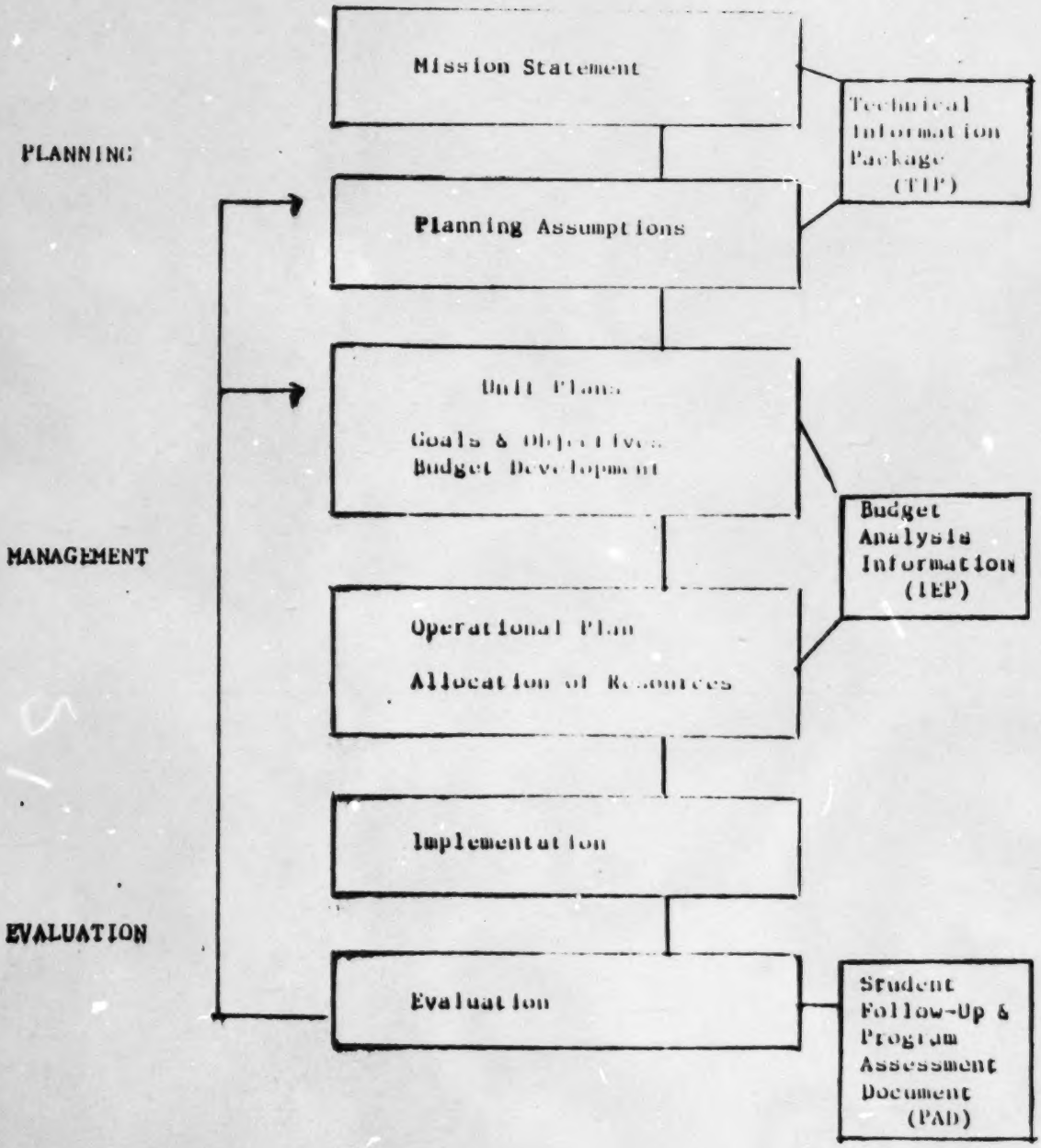
The Budget analysis Information package described herein is just one part of a planning, management and evaluation (PME) system being developed at this institution.[2] Figure II depicts this PME system. Conceptually, the process conforms with the PME system as described by Nwagbaraocha (1979). The center column describes the planning and budget development process. The right column identifies the research documents created to support these planning and budget development activities. As with other PME systems, emphasis is on the process and the involvement of all relevant constituencies rather than the product.

As Nwagbaraocha (1979, p. 4) states:

> The PME system utilizes the mission statement, the most permanent aspect of the college, as the basis for the cyclical planning process. . . . Specifically, the mission statement is augmented by internal data concerning evaluations of current activities (strengths and weaknesses), fund analysis, external environmental factors, assumptions, and other institutional research data.

In the case of this college, the mission statement is augmented by a Technical Information Package (TIP), which provides a narrative and statistical

Figure 11



* Adapted from Nwagharaocha (1979:14)

Planning, Management and Evaluation System - Role of Institutional Research

portrait of the college's past, present and future (projections). This document's emphasis is on enrollment analysis, but includes other institutional and environmental factors such as a market-share analysis of enrollment for the colleges in the geographical region.

TIP is also used by the college's Planning Council in preparing the planning assumptions, which summarize the major constraints upon which the rest of the process evolves. The Planning Council is made up of representatives from the college's various constituencies (students, faculty, administration, etc.) and acts as the mechanism for involving these groups in the process. The mission statement and planning assumptions, as augmented by TIP, form the framework for the development of unit planning and budgets. It is during this phase, as well as the subsequent phase, of integrating unit plans into an operational plan that the Budget Analysis Information is created and used in the allocation of resources. Specifically, the Budget Analysis Information is used in identifying areas for curtailment if the budget levy fails.

Insitutional research also plays a critical role in the evaluation process via student follow-up and vocational program assessment documents. As Nwagbaraocha (1979, p. 34) concludes, "the results of the evaluation phase are then utilized as input to the next planning cycle. This is indicated as a feedback or closed-loop process".

The purpose of delineating the larger process within which the Budget Analysis Information is used is to indicate that this document is just one input and not necessarily the most important in budget decisions. That is, quantitative and financial information are not the only factors considered in making educ-

ational decisions.[3]

Program Evaluation And Budget Analysis

Several assumptions formed the process described herein. First, before we can get to the difficult money allocation problems we must examine existing program evaluation data. Second, programs (the instructional or other services our institution provides) must be identified and compared using consistently derived, subjective as well as objective measures, as a basis for retrenchment related decisions. Third, the Research Office's role is to supplement existing program evaluation knowledge with data based, decision focused information (Datta, 1979; Gilmour and Beik, 1978; Stevenson and Walleri, 1979).[4]

Another crucial assumption made was that there are many strategic comparisons necessary within confronting our budget analysis problem. These comparisons, once made and communicated, will facilitate the solution of the larger budget cutting problem. These comparisons must be made across all college offerings, both instructional offerings, (labeled DISCIPLINES) and non-instructional offerings (labeled SERVICES). These comparisons must be made based upon the best objective and subjective program evaluation information which exists at the institution in data files and especially within experienced administrative staff.

Budget Analysis And Budget Unit Information

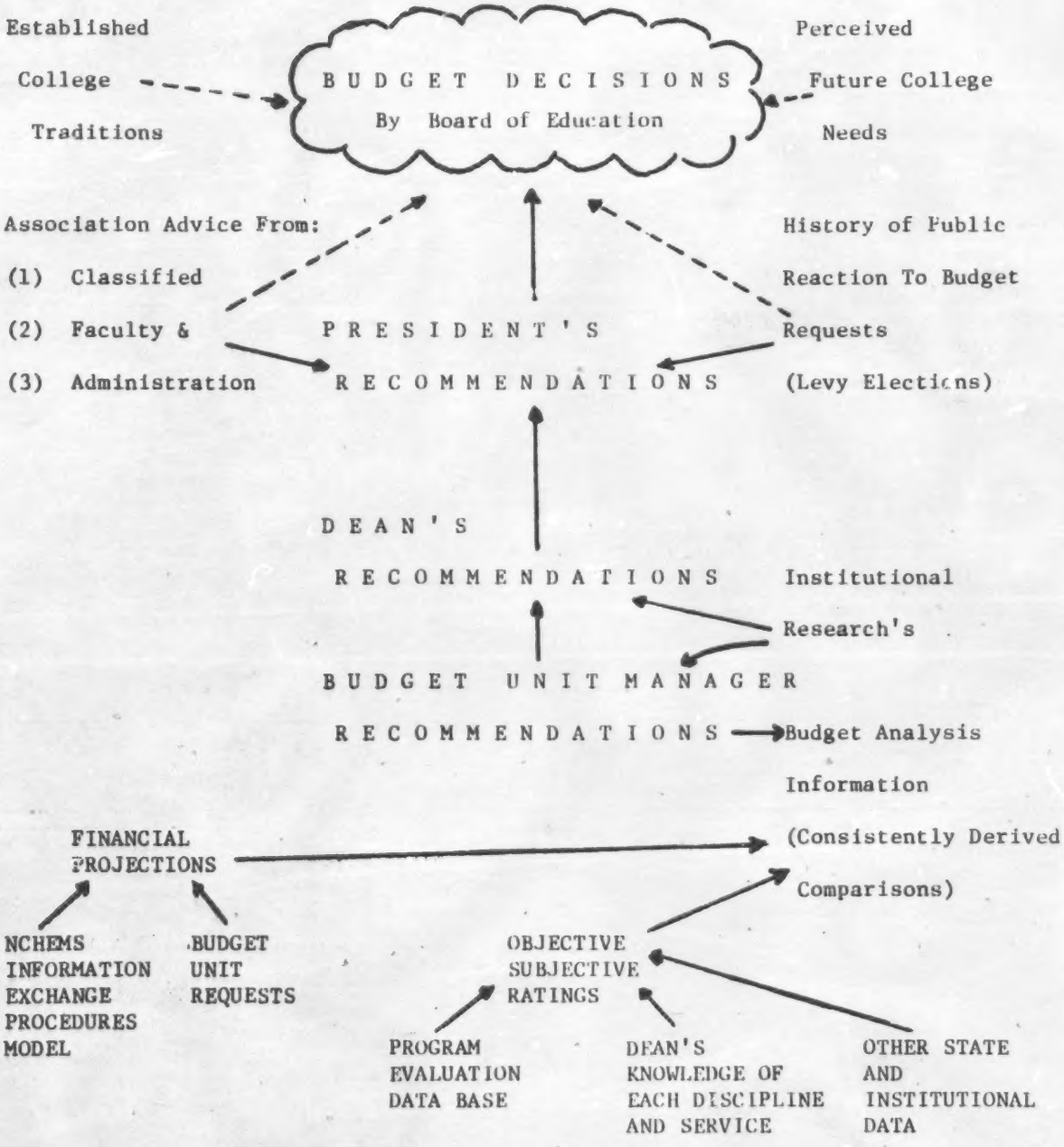
Before going on, we must identify the decision makers involved and the exist-

ing decision process. Figure III describes the budget decisions being made by the Board of Education based upon much advice, tradition, and perceptions. However, the primary decision ingredient is the president's recommendations which are at least partially derived from dean and budget unit manager recommendations. The budget decision process would be complete here under non-retrenchment conditions. However, since the end product of budget unit manager and dean recommendations will not be a budget able to spread the hurt evenly as in previous budget development years, there is a need to make "consistently derived comparisons" across all disciplines and services in order to identify specific disciplines and services for the budget cutting ax.

The result of our second time through this type of budget analysis problem was the development of BUDGET ANALYSIS INFORMATION which consisted of (1) financial PROJECTIONS with the purpose of assuring proposed budget decisions will lead to a balanced budget and (2) RATINGS with the purpose of assuring consistently derived comparisons. The bottom of Figure III describes the sources of the PROJECTIONS and RATINGS; and Figure IV describes the relevant components of the financial PROJECTIONS as well as the RATINGS.

Financial PROJECTIONS were derived from applying the Information Exchange Procedures (IEP) Model, originally developed by the National Center for Higher Education Management Systems (NCHEMS), as modified to include "Revenue" and "Revenue minus Full Cost" components. Further, the IEP Model was modified to use budget unit manager requests instead of historical expenditures as the input to the standardized procedures. With a great deal of help from budget unit managers (division chairpeople and other budget

Figure III



Decision-Making Process For Budget Formulation

Figure IV

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(1) FINANCIAL PROJECTIONS OF:

DIRECT COST

FULL COST

REVENUE

PROFIT OR LOSS (REVENUE-FULL COST)

PROFIT OR LOSS PER FTE

FOR ALL DISCIPLINES AND SERVICES

↓

INTENDED TO BE USED IN

ASSURING PROPOSED BUDGET DECISIONS

WILL LEAD TO A BALANCED BUDGET

****

(2) RATINGS FOR ALL DISCIPLINES AND SERVICES

	Rating	Weight	Source
1.	Mission Relatedness.....	5...	District Board of Education
2.	Cost/Revenue.....	5...	Budget Requests (NCHEMS Model)
3.	Demand.....	3...	Deans (# of applicants)
4.	Employment Outlook.....	3...	Deans (Manpower Supply/Demand
5.	Job/Schooling Relatednes.....	3...	Deans (Follow-Up Data)
6.	Enrollment Retention.....	3...	Enrollment Data
7.	Sunk Cost.....	3...	Capital Investment
8.	Potential Future Sunk Cost.....	1...	Deans (Recommendations)
9.	Program Availability Elsewhere.	1...	Deans (College catalogs)
10.	Compliance.....	1...	Deans (Affirmative action, Title IX, & Handicapped)
11.	Weighted Average.....	*...	Calculation

↓

INTENDED TO BE USED, SEPARATELY OR IN

COMPOSITE, IN ASSURING CONSISTENTLY DERIVED

COMPARISONS ACROSS ALL DISCIPLINES AND SERVICES

Budget Analysis Information Equals (1) Financial Projections plus (2) Ratings

supervisors), projections of enrollment, revenues, and expenditures lead to a consistently derived measure of financial profit or loss (REVENUE minus FULL COST) for all disciplines and services.

The RATINGS which provided the strategic comparisons mentioned earlier were derived from program evaluation data, institutional enrollment data, state employment data, as well as from the budget unit managers' knowledge of each discipline. To assure consistently derived ratings (comparisons), all subjective measures were finalized by the deans or a consensus basis (the Research Office provided consultation). Further, the ten rating factors identified as relevant were weighted according to perceived importance within any budget cut decision, then a composite (weighted average) was calculated.

A crucial fact complicating the development of both the projections and ratings was the comprehensive nature of this community college. That is, about 43% of the college's enrollment is in vocational-technical education, 46% in college transfer, and 11% in the general area of community education. Within the college's overall mission statement, vocational education has traditionally been and continues to be the college's top priority. Thus, in terms of the ratings, vocational programs had a built-in advantage (i.e., mission relatedness category - see Figure IV). Other categories, such as sunk cost and employment outlook, also tended to favor the vocational programs. On the other hand, and in terms of the financial projections, the vocational programs were clearly at a disadvantage compared to the college transfer programs on the basis of full cost minus revenue. The dilemma became very apparent when the programs were analyzed in terms of their

composite ratings. Overall, the vocational programs tended to have higher composite scores, but of course, this did not lessen the financial crisis or resolve the decision-making problems involved in determining budget cuts.

Another complicating factor was the inclusion of non-instructional service categories, such as athletics, co-curricular student services, and community services within the PROJECTIONS and RATINGS. However, reasonably consistent financial projections and rating comaprisons were derived relying upon the consensus of the dean's rating process to settle disputes.

Use of Budget Analysis Information

Documents compiling the described projections and ratings were sent to the Board of Education as well as to others having input into the budget development process. The objective identified was "to provide objective and relative data to assist decision makers in formulating judgments for budget planning". Warnings were given that (1) this information is NOT a budget recommendation, (2) this information will NOT be and should NOT be the sole basis for budget recommendations, (3) this information is one set of inputs to be used with other factors; such as, (A) collective bargainings' seniority retrenchment policy, (B) verbal and written input from college associations or staff, (C) input from the Budget Council, (D) the established traditions of the college, and (E) the perceived college needs in the future. All these factors were identified as to be taken into consideration by the president in making his recommendations.

Value Of Budget Analysis Information

The results of the project were praised, damned, refuted, confirmed, cussed, and discussed during the trying period when the Board of Education was considering its distasteful responsibility to make the required decisions. The budget analysis information provided a focal point to discuss relevant factors within the fretful decisions. The information, and perhaps more the process, brought out the importance of a clear understanding of the college's mission as well as the need for thought-out comparisons. The information and process were utilized as a means of positively confronting a distasteful problem. Program and personel contingency plans were formed prior to spring term 1980.

An evaluation of resultant contingency plans in relation to the Budget Analysis Information was also conducted. This analysis showed little direct or obvious relationship between the Budget Analysis Information and the proposals for a reduced budget. For example, of the programs identified for elimination, just as many were net revenue producers as net deficit producers. Discussion with contingency plan designers revealed that a key element that was not adequately reflected in the Budget Analysis Information was the need to maintain balance in the scope of college offerings (i.e., between vocational and lower division transfer programs). Thus, the goal of preserving comprehensiveness appears to be the key factor in explaining the apparent discrepencies between the information provided and the decisions reached. Discussion with the contingency plan designers also revealed the following points:

(1) "positions rather than people" were considered and MHCC's collective bargaining retrenchment statements did not impact on decisions,

(2) the contingency plans were the result of "three separate reviews and over 300 hours of detailed analysis",

(3) "the budget analysis information was used almost exclusively the first time thru as well as for the second and third reviews",

(4) the cutting of programs projected to make money was justified by "an analysis which showed the projected money makers to be either the least cost-effective or lower rated of comparable programs needed to maintain MHCC's comprehensive nature".

It is also important that such reports be viewed in their proper context. That is, program evaluation reports are often (and mistakingly) viewed as not being utilized unless they lead to immediate and major program decisions. On the other hand, as Michael Patton (1978, p.28) reports in the follow-up study done on twenty federal health program evaluations, "the more typical impact was one where the evaluation findings provided additional pieces of information in the difficult puzzle of program action, permitting some reduction in the uncertainty within which any . . . decision maker inevitably operates". That is, rather than providing new insights, the findings from the study described herein are more likely to simply confirm intuitively and non-systematically derived impressions of a program's value. The value of this study was that it provided the best empirical evidence available for making such judgments.

Future Of Budget Analysis Information

The same distasteful problems may be with this college again next year. In February of 1980, the college improved its budget levy batting average during this era of retrenchment when its district residents approved the 1980-81 levy. The problem now is that if the college is without a local levy for 1981-82, the deficit will be much more than $5 million with even more program and staff cuts necessary to be identified unless financial stability from a tax base can be found.

The next test of the value of this process and resultant information is how it can be modified. The following specific suggestions are intended to improve both the process and the product:

(1) display intermediate calculations ("student instructor ratio" and "instructor FTE") which are commonly used in other analyses,

(2) verify student FTE projections so as to improve the confidence we have for this critical factor,

(3) develop a "WHAT IF" computer data base and model that could be used for questions such as:

(A) How do the Financial Projections, and thus Ratings change given any specific "budget change" or program elimination"?

(B) How do the Financial Projections, and thus Ratings, change given "a changed student FTE projection" or"the use of a Full-Time instructor instead of a Part-Time instructor" when other changes are made?

(C) How does the composite rating change given "a changed weighting on a specific rating" or "the non-use of a specific rating"?

(4) Integrate the budget development and budget analysis processes by determining the most appropriate budget unit breakouts (Hayman, Stenner, and Modey, 1979, p. 38) and by using computer power to help in both processes.

We have a final concern which relates to financial planning and program evaluation as well as to the role of institutional research. What happens when, or if, MHCCD gains financial stability? Would this process fade away along with insitutional research's involvement? Should research go back to doing annual student follow-up studies and annual program assessments, or should a slightly revised budget analysis process arise aimed at helping identify the programs for the budget ax when new programs are needed within a non-growth environment? As Spencer (1979, p. 65) argues "institutional renewal, unless it links directly to data, will be almost impossible".[5]

References

[1]Dougherty, et al provide a comparative review of program discontinuance policies and procedures for twelve institutions of higher education. One of their findings was that no real dollar savings are achieved unless full-time faculty positions are eliminated. The key factor underlying the budget development process described herein is that both cost and revenue are taken into consideration. That is, the process ensures programs that generate more revenue than cost would be less likely to be eliminated. The importance of this relationship between cost and revenue cannot be overstated in a financial crisis. Mann (1979, p. 31) states that "all personnel must understand the assumptions used to project revenue and expenditures because individuals affected by the reduction have the right to understand factors that directly influence their lives and careers. Personnel reductions based upon financial planning must be reasonably accurate".

[2]Although not part of the U. S. Office of Education (USOE), Title III Advanced Institutional Development Program (AIDP) funded colleges and universities PME system, the process being implemented shares similar features (Spencer, 1979; Nwagbaraocha, 1979).

[3]See Nwagbaraocha's discussion of the misuse and confusion concerning PME (1979, p.31).

[4]Other important uses of program evaluation information is compliance with federal requirements contained in the Vocational Education Act of 1976 as well as systematic assessment over a longer period of vocational programs.

For background on the amendments to the 1976 Vocational Education Act, see Datta (1979). A general model for the evaluation of post-secondary education programs is given by Gilmour and Beik (1978). Specific application to a community college is given by Stevenson and Walleri (1979).

[5]Hayman, et al (1979, p. 38) argue convincingly that "the type of analysis ... and the analysis units which are appropriate depend directly on the particular decision makers to be served".

REFERENCES

Datta, Lois-Ellin. Better luck this time: from federal legislation to practice in evaluating vocational education. In Theodore Abramson, et.al. (Ed.), Handbook of vocational education evaluation. Beverly Hills, Calif: Sage publications, 1979, pp. 37-38.

Dougherty, Edward; Thomas Langfitt and Frederick Volkwein. Program discontinuances: policies and implementation. Presented at the annual meeting of the Association for Institutional Research, San Diego, May 13-17, 1979. (ERIC No. HE 011 422).

Gilmour, J. E. and L. L. Beik. A model for the review and abandonment of academic programs in postsecondary education. Research and planning for higher education. 1978 (17th annual forum of AIR), pp. 115-119.

Hayman, J.: Rayder, N.; Stenner, A. J. and Modey, D. L. On aggregation generalization, and utility in educational evaluation. In W. James Popham (Ed.). Educational evaluation and policy analysis. Washington, D. C.: American Educational Research Association, 1979, pp. 31-39.

Mann, William J. Financial planning and management - new strategies. In Robert Lahti, (Ed.), New directions for community colleges - managing in a new era. San Francisco: Jossey-Bass, Inc., 1979, pp. 29-40.

Nwagharaocha, J. Planning, management, and evaluation: in search of a viable system for college improvement. In A. Cooke (Ed.), New directions for institu-

tional research: planning rational retrenchment. San Francisco: Jossey-Bass, 1979, pp. 29-44.

Patton, Michael Q. Utilization - focused evaluation. Beverly Hills, Calif.: Sage publications, 1978.

Spencer, Richard L. Information for institutional renewal. In Robert Lahti, (Ed.), New directions for community colleges - managing in a new era. San Francisco: Jossey-Bass, Inc., 1979. pp. 65-72.

Stevenson, Mike, and Walleri, R. D. Federally mandated evaluation of vocational programs: one college's response. Presented at the annual meeting of the Association for Insitutional Research, San Diego, May 13-17, 1979. (ERIC No. ED 164 045).